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10/705,551	11/11/2003	Thor J. Johannsen	35683.0new	5092

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EXAMINER

MATTHEWS, TERRELL HOWARD

ART UNIT	PAPER NUMBER
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3654

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/705,551

Applicant(s)

JOHANNSEN, THOR J.

Examiner

Terrell H. Matthews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-16, 18, 20-27 and 29 is/are rejected.
- 7) ☒ Claim(s) 10, 17 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/26/04, 5/11/05, 9/23/05, 12/27/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

Claims 1-29 are pending in the instant application.

#### ***Response to Arguments***

Applicant's arguments see pages 9, with respect to the rejection(s) of claim(s) 1-3,12,24-27 under 102(b), and page 11, with respect to the rejection(s) of claim(s) 1,6-9,13-16,18, 24-27 under 103(a), filed 1/04/2006 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rasch (GB2143444) who discloses a "Inclined Wheel Separator" that is angularly mounted and capable of rotating about a first wheel axis tilted at an angle relative to a horizontal reference.

#### ***Allowability Withdrawn***

The indicated allowability of claims 4-5, 20-23, are withdrawn in view of the newly discovered reference(s) to Rasch (GB2143444). Rejections based on the newly cited reference(s) follow.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 11-15, 25-27, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckbee (2322415) in view of Rasch (GB2143444).

Referring to claim 1,6-7,25-26,29. Buckbee discloses a "Sand Dewatering Wheel" as disclosed. See Figs. 1-4 and respective portions of the specification. Buckbee further discloses a circular body plate (10), hub (11), shaft (12), tank (14), buckets (15), feed spout (24), outlet pipe (30), discharge openings (31), discharge notches (32), hoppers (33), and discharge spout (34). Buckbee further discloses the tank receives a liquid-solid mixture (See Col. 2 l. 40-43) and a first wheel mounted within the tank to rotate about a first wheel axis relative to a horizontal reference with a plurality of spaced apart scoops for scooping up solid material and discharging the material outside the tank during rotation (See Col. 9-15, 43-46). Buckbee discloses that the fluid pass out through outlet pipe (30) and an angularly mounted discharge chute (33) attached to the tilt sidewall. (See Col 3 l. 1-5 & Col. 3 l. 55-63). Buckbee does not disclose that the first wheel is angularly mounted to rotate about a first wheel axis tilted at an angle relative to a horizontal axis. Rasch discloses an "Inclined Wheel Separator" as claimed. See Figs. 1-2 and respective portions of the specification. Rasch further discloses a bucket wheel (3), which is inclined to rotate about a first wheel axis that is tilted at an angle (See Pg. 1 l. 80-90). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the apparatus of Buckbee to include the teachings of Rasch so that the wheel was angularly mounted to rotate about an axis that is tilted at an angle so that the scoop buckets could hold the contents

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scooped up from the tank in the buckets without spilling the contents. It should be noted that Buckbee discloses that the scoop buckets (15) are substantially open sided on side thereof of the first wheel for permitting the scooped material to discharge from the scoops at the first side of the first wheel as the scoops rotate above the upper edge of the side wall and that so of the scoops walls are substantially parallel to the first wheel axis (See Figs 1-2).

Referring to claim 2-3. Buckbee discloses a sidewall located adjacent to and conforming to a downwardly oriented first side of the first wheel for impeding scooped solid material from discharging from the scoops while rotating inside the first tank, the side wall having an upper edge portion over which the scoops discharge scooped solid material from the first side of the first wheel when rotated higher than the upper edge portion (See Col. 3 l. 35-39 & Fig. 2). Additionally, Buckbee discloses that each of the hoppers (33) is provided with a discharge spout (34) that passes through one of the sidewalls of the tank (14) to receive the solid material so that it does not fall back into the tank (See Col 3. l. 55-63). It is understood from Fig. 1-2 that the sidewall is substantially planar and substantially perpendicular to the first wheel axis.

Referring to claims 4-5. Buckbee does not disclose wherein the tilt of the first wheel axis relative to the horizontal reference is greater than zero degrees, and equal to or less than fifty degrees. Rasch discloses the invention as discussed above in detail. It is broadly construed and generally understood that the tilt of the first wheel is greater than zero degrees and equal to or less than fifty degrees. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the apparatus of

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Buckbee to include the teachings of Rasch and make the tilt on the first wheel greater than zero degrees and equal to or less than fifty degrees so that the buckets would be tilted at an angle that would allow the contents scooped up from the tank to be held without spilling.

Referring to claim 11. . Buckbee discloses the invention as described above.

Buckbee does not disclose that some of the scoops have a width greater than that of the cylindrical wall. It would have been obvious to a person of ordinary skill in the art, however to modify the apparatus of Buckbee so that the buckets had a greater width than the cylindrical wall so that they were able to scoop and hold more solid materials to increase production of separating the solids from the liquids in the mixture.

Referring to claim 12. Buckbee further discloses buckets (15) that may be adjustably supported on their respective bolts (16), which are capable of angular adjustment. Additionally, Buckbee discloses that bolts (16) are tied together by links (19) which extend from bolt to bolt throughout the entire series of buckets and that the links are provided with a holding bolt (23) that locks into the terminal plate (21 which holds the buckets (15) in position. It is broadly construed and generally understood that the buckets are connected together and that they are removable from the wheel by detaching holding bolt (23).

Referring to claim 13-15. It is understood from Figs 1-4 that the some of the scoops define a concave region, which opens in the direction of rotation of the wheel and that some of the scoops define a cavity or hollow, which opens in the direction of rotation of the wheel and that the bottom wall is adjacent to a lower end of the wheel.

Referring to claims 27. With respect to claim 27, the method described in these claims would inherently result from the use of Buckbees apparatus in view of Rasch as advanced above.

Claims 8-9, 16,18, 20-22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckbee in view of Rasch in further view of Tanii (5490928).

Referring to claims 8-9. Buckbee does not disclose that the Tanii discloses a "Tandem Waterwheel Trommel" as claimed. See Figs. 1-4 and respective portions of the specification. Tanii discloses a drain-off tank (1), connection pipe (2), classifying tank (3), base (5), roller (6), drive unit (10), buckets (14), gutters (16), drain holes (17), fixed shoot (19), sludge shoot (20), channel (29), scoop-up buckets (30), discharge ports (32,35), and screws (33,34). Tanii further discloses that the tank (1) receives a liquid-solid mixture (See Col. 4 l. 1-36). Tanii furthermore discloses tha the outer scoop edges of at least some of the scoop walls are angled such that the outer scoop edges of the angled wheels are not parallel to the first wheel axis (See Fig.3). It is broadly construed and understood from Figs. 2 & 3 that the scooped up solid material from the first tank is discharged outside of the first tank during rotation of the first wheel. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the apparatus of Buckbee in view of Rasch to include the teachings of Tanii an angle the scoop walls so that they could better hold the contents that were scooped in the buckets. It should be noted that Buckbee discloses a predetermined fill line (14a) for

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the liquid-solid mixture in the tank. It would have been obvious to a person of ordinary skill in the art in view of Rasch in further view of Tanii to modify the apparatus of Buckbee so that the scoop edges were angled to be parallel to the predetermined fill level when the angled outer scoop edges are located at the predetermined fill level so that the scoop buckets were able to scoop contents from the tank without spilling them in a more efficient manner.

Referring to claim 16,18. Buckbee does not disclose a second tank connected to the first tank or a second wheel that is angularly mounted at least partially within the second tank tilted an angle relative to the horizontal reference. Tanii discloses the apparatus as discussed above in detail. Tanii discloses a second tank (3) for receiving some of the liquid-solid mixture from the first tank and a second wheel to rotate about an axis tilted at an angle including a plurality of spaced apart radially extending scoops about a periphery for scooping up solid material from within the second tank and subsequently discharging the scooped solid material outside of the second tank. It would have been obvious to tilt both wheels as taught by Rasch so that the scoop buckets could hold the contents scooped up from the tanks in a more efficient manner.

Referring to claims 20-22. Buckbee discloses a hydraulic motor (12) connected to shaft (12a) that serves as a rotary drive for the bucket wheel (3) as well as a pump assembly (21) that can be provided for continuous variation of the motor speed. It would have been obvious to a person of ordinary skill in the art at the time of the invention in view of Rasch and in further view of Tanii to use the motor (12) as taught by Buckbee to rotate the first and second wheels in opposite directions, and to rotate the first and



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second wheels upstream or downstream so that the scoop wheels could be adjusted to go in the direction and speed to accomplish scooping up more contents in the buckets.

Referring to claims 24. Buckbee discloses that the first tank has a feed hopper (24) at a first end thereof for feeding the liquid-solid mixture into the tank (See Pg. 2 l. 39-43), and an exit gate (30) at an opposite second facing the first end (See Pg. 3 Col. 2 l. 1-5), the first wheel being offset to one side of the a flow path through the first tank from the feed hopper at the first end to the exit gate at the second end.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buckbee in view of Rasch in view of Tanii in further view of Nordhus (4915826).

Referring to claim 23. Tanii discloses the invention as described above in detail. Tanii does not disclose the frame having transport wheels. Nordhus discloses a "Grain cleaner" as claimed. See Figs. 1-3 and respective portions of the specification. Nordhus further discloses that the cleaner (10) comprises framework (12) having forward support legs (14), rear support legs (16) and that the rear support legs are provided with wheels (18) for towing. (See Col. 2 l. 27-33). It would have been obvious to a person of ordinary skill in the art to modify the apparatus of Tanii to include wheels on the framework as taught by Nordhus so that the apparatus could be portable and moved easily from one area to another.

***Allowable Subject Matter***

Claims 10, 17, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 28 is allowed.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell H. Matthews whose telephone number is (571) 272-5929. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THM

  
**KATHY MATECKI  
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